

### **REMARKS**

Reconsideration of this application and the allowance of rejected claims 1-16 are respectfully requested. Applicants have attempted to address every ground for rejection in the Office Action dated March 5, 2010 (Paper No. 20100219) and believe the application is now in condition for allowance. The specification and drawings have been amended to more clearly describe the present invention.

Claims 1-16 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Specifically in claims 1 and 11, the Examiner states that the phrase “each channel being interposed between two neighbouring channels of the network being, over the whole of its developed length” is indefinite because it is unclear how the outermost channels satisfy this element. Furthermore, the phrase “adjacent to these two neighbouring channels from which it is isolated by two respective weld line connecting the two metal sheet” is also considered to be indefinite. In claim 7, the phrase “the overall variation in the cross-section of one of the paths is in the same direction as a variation in the flow rate of gas in this path is intended for a phase change process” is unclear. Further, in claim 16, the phrase “each channel interposed between two neighbouring channels of the network being adjacent over its whole developed length to these neighbouring channels from which it is isolated by two respective weld lines joining the two

metal sheets” is unclear. Applicants have amended these claims to clarify the subject matter of the claims. Accordingly, Applicants submit that the claim amendments overcome the rejection of claims 1-16 and respectfully request that the rejection be withdrawn.

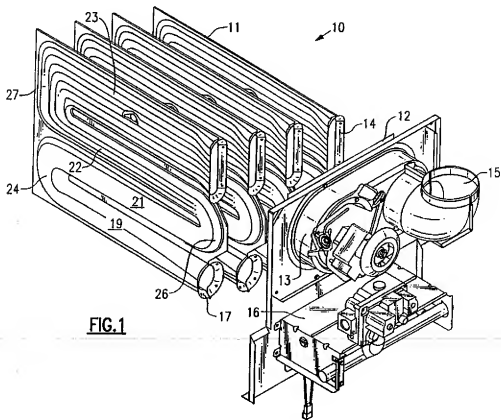
Claims 1-9 and 11-15 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,470,878 to Brown et al. Applicants disagree with and traverse this rejection for the following reasons.

Brown discloses a furnace heat exchanger including a bank 10 of heat exchanger panels 11, where each panel includes an outlet 14 connected to a collector box 12 and an inlet 17 connected to the burner assembly 16. Each of the panels 11 includes several flow passages, such as passages 19, 21, 22 and 23 (Fig. 3A), extending from the inlets 17 to the outlets 14. At least two of the passages include opposing sidewalls having a wavy cross-sectional shape to increase the surface area of the passages.

In contrast, amended claim 1 recites, among other things, a heat exchanger including “modules defining a first path for a first fluid, each of said modules comprising two metal sheets forming between them a network of channels which are located in parallel with each other from a fluidic point of view, over the whole developed length of said modules, each adjacent channel of said network of channels being isolated by two respective weld lines connecting said

two metal sheets” and “a second path for a second fluid [that] is defined between said modules, wherein a passage cross-section varies over a length of at least one of said first and second paths with continuity of profiles of said channels.” Brown fails to disclose such subject matter.

As shown below in FIG. 1, Brown discloses a bank of heat exchanger panels 11 having inlets 17 and outlets 14 that are respectively connected to the burner assembly 16 and the collector box 12.



Brown fails to disclose any type of fluid or gas that moves between the panels 11. Accordingly, Brown only discloses one fluid path which is defined by the flow passages in each of the panels 11. In contrast, amended claim 1 recites modules defining a first fluid path and a second fluid path between the modules.

Furthermore, Brown fails to disclose a plurality of modules “defining a first path for a first fluid, each of said modules comprising two metal sheets forming between them a network of channels.” Instead, Brown discloses a single channel or flow path (FIG. 2) in which the cross-section of the single channel changes as shown in FIGs. 3A, 3B and 3C.

For at least these reasons, Applicants submit that amended claim 1, and the claims that depend therefrom, are each patentably distinguished over Brown and in condition for allowance.

Amended claim 11 includes similar subject matter to amended claim 1. Specifically, amended claim 11 recites, among other things, a heat exchange module including “two metal sheets which between them form a network of channels located in parallel to each other from a fluidic point of view, over the whole developed length of said channels, each of said channels being isolated by two respective weld lines joining said two metal sheets, and wherein a passage cross-section is defined by said channels with continuity of profile of said

channels.” As stated above, Brown fails to disclose a module or panel including a plurality of channels.

Accordingly Applicants submit that amended claim 11, and the claims that depend therefrom, are each patentably distinguished over Brown and in condition for allowance.

Claims 1-9 and 11-15 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,109,254 to Reinke et al. Applicants disagree with and traverse this rejection for the following reasons.

Reinke discloses a heat exchanger including a multi-pass flow passage 11 (FIG. 2) having an inlet that receives combustion gas from a burner 24 and an outlet connected to an induction blower which draws the gas through the flow passage. The flow passage 11 has generally parallel pathways except at the transition zones 46 and 47 (Col. 3, line 62 to Col. 4, line 9).

Reinke discloses a single flow passage 11 and therefore fails to disclose a module including several parallel channels or flow passages as recited in amended claims 1 and 11. Furthermore, the heat exchanger in Reinke does not include multiple modules that define a first flow path and a second flow path between the modules as recited in amended claim 1. Instead, the heat exchanger in Reinke has a single passage 11.

For at least these reasons, Applicants submit that amended claims 1 and 11, and the claims that depend therefrom, are each patentably distinguished over Reinke and in condition for allowance.

Claims 10 and 16 are rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of Brown or Reinke and Japanese Patent Document No. JP 57192798 to Nabuaki. Claims 10 and 16 depend from claims 1 and 11 respectively. Nabuaki is cited as disclosing the configuration of the longitudinal edges of the modules, but does not remedy the deficiencies of Brown and Reinke discussed above. Applicants therefore submit that claims 10 and 16 are each patentably distinguished over the cited combination for the reasons provided above and for the further reason that the combination of Brown or Reinke and Nabuaki fails to disclose or suggest the subject matter of amended claims 1 and 11 in combination with the subject matter of claims 10 and 16.

Serial No. 10/585,601  
Office Action dated: March 5, 2010  
Amendment A dated: June 7, 2010

In view of the above remarks, the application is respectfully submitted to be in allowable form. Allowance of the rejected claims is respectfully requested. Should the Examiner discover there are remaining issues, which may be resolved by a telephone interview, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By /Christopher S. Hermanson/  
Christopher S. Hermanson  
Registration No. 48,244

June 7, 2010  
300 S. Wacker Drive, Suite 2500  
Chicago, Illinois 60606-6501  
Telephone: (312) 360-0080  
Facsimile: (312) 360-9315  
**Customer No. 24978**